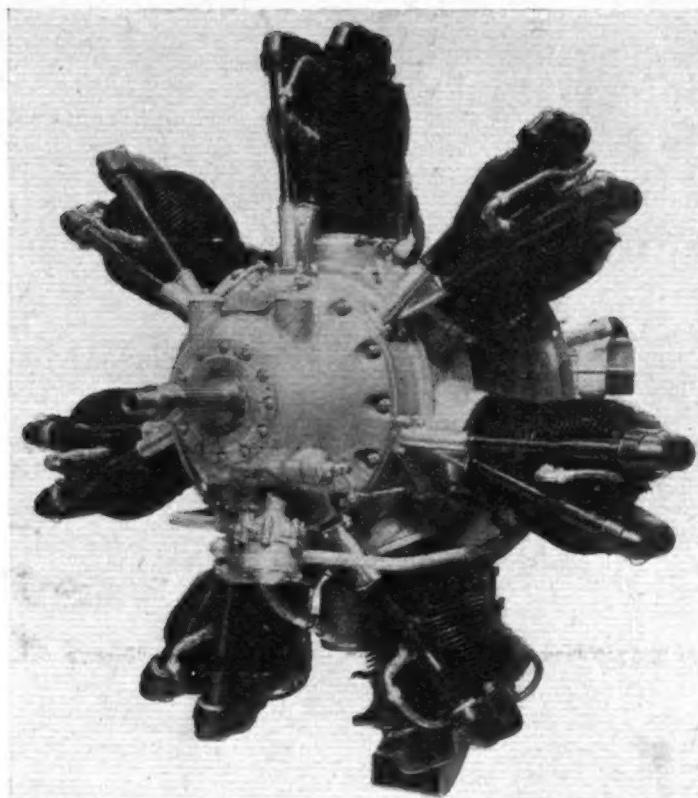


The 50 h.p. Cirrus Midget (above) will make an interesting comparison with some of the new Continental light four-in-line units. On the right is the 350 h.p. Siddeley Cheetah X which is so much in demand for trainers and light military machines.



Arm, another of the Shark torpedo-spotter-reconnaissance biplane, and one of the B.2 Trainer. The complete range of Cirrus engines—Major 150, Minor, and Midget—will be represented. These models, respectively, give maximum powers of 150 h.p., 90 h.p., and 55 h.p., and their weights in the same order are 325 lb., 227 lb., and 165 lb. All are inverted four-in-line units of robust construction.

#### Accessories and Equipment

*Aircraft Components, Ltd.*, will have as a central feature of their stand a complete Dowty retractable undercarriage for an aeroplane of 15,500 lb. gross weight. There will also be a retractable tail wheel unit suitable for a machine of 20,000 lb. gross weight. In this design the retracting cylinder is mounted on the strut itself in such a way that free travel of the jack automatically locks the unit in the safe landing position, and unlocks it for retraction.

Thirdly, there will be shown the Dowty preselector automatic flap control, in which the movement of the flap, landing lights, radiator shutter, or other component is indicated exactly by the position of the operating lever, thus making a separate indicator unnecessary.

*Aviation Engineering (Messier) Co., Ltd.*, will be co-operating with their French company, on whose stand their undercarriage equipment will be shown.

*Avimo, Ltd.*, will be represented on the stand of Société Bronzavia, for whose products (engine accessories, oxygen equipment, etc.) they hold the British manufacturing rights.

*The Dunlop Rubber Co., Ltd.*, will have an exhibit consisting of a 26.00-26 tyre and wheel; a pneumatic brake and gun gear demonstration stand; and a hydraulic brake, gun and water-rudder demonstration stand.

On the pneumatic stand is demonstrated the operation of brakes and guns by means of compressed air. In the case of the brakes the system is operated by a lever situated on the control column, and differential braking is given by means of the differential control unit being coupled to the rudder bar. The gun

system is operated by a button on the control column and can operate simultaneously any number of outboard guns. The system can also be employed for the operation of airscrew-synchronised guns.

The hydraulic stand demonstrates the hydraulic system for the operation of brakes, guns and water rudder. A hydraulic differential control and brake units are coupled to the undercarriage power supply and differentially con-

trolled by the unit being coupled to the rudder bar. Application is through the hand lever on the control column.

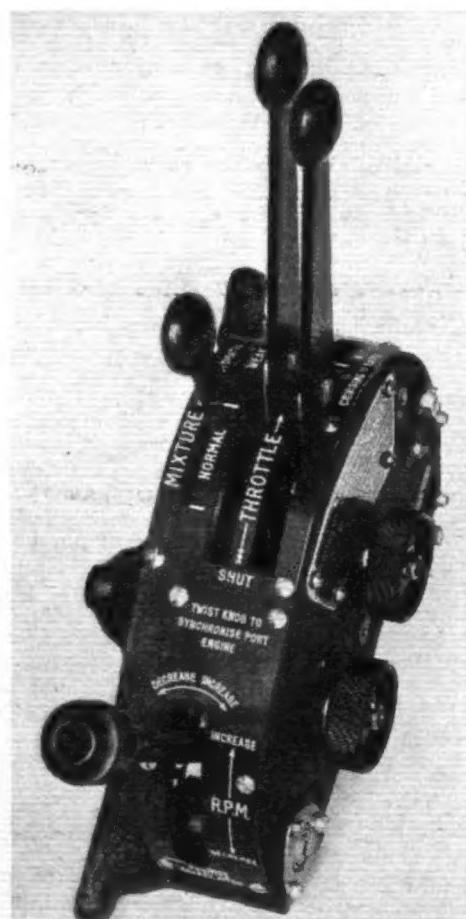
The gun system consists of hydraulic firing and cocking units for shell-gun and machine guns. The firing units on the shell-gun and machine guns are coupled together and are operated by a button on the control column through a safety valve and also an operating valve. The former valve is coupled in the undercarriage circuit so that the guns can only be fired when the undercarriage is retracted.

The water rudder unit consists of hydraulic jacks and operating units and is operated from a unit controlled from the rudder bar.

*Dzus Fasteners (Europe), Ltd.*, a sister company of Thomas P. Headland, Ltd., of London, the engineering factors, will be demonstrating their well-known self-locking fastener for use on cowlings, inspection flaps, fairings, etc.

*Gallay, Ltd.*, will show for the first time their new "aerodynamic system" of liquid-cooling for engines of high-speed aircraft. They will also exhibit a representative selection of their normal engine-cooling equipment, including a radiator and oil cooler as used for the Merlin engine of the Fairey Battle; dual-stage oil cooler for the Gipsy Twelve engine as used in the Albatross; combined oil cooler and tank used in the Airspeed Oxford (Armstrong Siddeley Cheetah); standard-type oil coolers for hydraulic systems; combined oil cooler and cockpit heaters for the Gloster Gladiator (Bristol Mercury); cabin heating and ventilating equipment as used in the Handley Page Harrow; protected fuel tank for the Airspeed Envoy; and an air heater and steam boiler for the cabin-warming installation of the De Havilland Albatross.

*H. M. Hobson (Aircraft and Motor Components), Ltd.*—Few visitors to the Paris Show will need an introduction to this firm's products, which are such important features of the majority of British aircraft engines in use to-day. The equipment on show will include various types of aircraft carburetters, with examples of the Hobson Master Con-



Hobson control for twin-engined aircraft with interlocked throttle and mixture levers and synchronising device for constant-speed airscrews